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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/914,143 | 08/23/2001 | Franco Ambrosoli | 163-344 | 1756 |

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| EXAMINER | |
|---|---|
| SAADAT, CAMERON | |
| ART UNIT | PAPER NUMBER |
| 3713 | 8 |

DATE MAILED: 07/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/914,143 | AMBROSOLI, FRANCO | |
| | Examiner | Art Unit | |
| | Cameron Saadat | 3713 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *09 April 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1 and 3-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

## DETAILED ACTION

In response to Amendment filed 4/9/03, claims 1 and 3-9 are pending. Claim 2 has been cancelled.

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 1, 3-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.** The claims contain the term "*solar cells*", which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**5. Claims 1, 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watkins (GB 2 259 559 A) in view of Lebensfeld et al. (U.S. Patent No. 6,302,796; hereinafter Lebensfeld), further in view of Gammarino et al. (USPN 4,086,711; hereinafter Gammarino).**

Regarding claim 1, Watkins discloses equipment for detecting a direct hit on a target by a signal from simulated weapon 10, in a system comprising: a weapon and a target 45; the weapon providing an emitter 62 of signals or laser shots operated by a switch and a trigger 21; said target including sensors 45 affixed to a supporting element 40; said sensors being operatively connected to an electronic detection circuit 93; the supporting elements (headband 40) being worn by targeted individual; the emitter of signals or laser shots 62 being situated on the barrel of a pistol or rifle (see P. 6, col. 9), the equipment further comprising a control device or control electronic circuit wherein the control device is a controller 79 with a power supply 90 (see Fig. 4); *a direct hit indicator 48* (see P. 9, Col. 23). Although Watkins does not specify the type of microcontroller, it is the examiner's position that RISC is a notoriously old and well known microcontroller architecture that is considered favorable for its speed.

Watkins further teaches a signaler for indicating whether the weapon is unloaded by *displaying* either "*loaded*" or "*unloaded*" on display 29 (see P. 7, Col. 13-20), by detecting if magazine contacts 87 are connected to terminals 86 which communicate with processor 76 (see Figs. 4 and 7). Although Watkins does not specify a *flashing green signaler* for this indication, it is the examiner's position it would have been an obvious matter of design choice as to the *type of*

*visual indication* for indicating if the weapon is loaded or unloaded, wherein no stated problem is solved or unexpected result is obtained by prescribing a *flashing green signaler*.

Watkins discloses a *hit indicator*, but does not explicitly disclose that the microprocessor *prevents the weapon from being fired when the hit indicator is on.* However, Lebensfeld discloses equipment for detecting that a target has received a direct hit from a simulated weapon wherein *an indicator* notifies an individual has been hit (Col. 10, lines 23-24), and further disabling his/her weapon when the hit indication is on (see Col. 8, lines 45-52). Hence, in View of Lebensfeld, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the hit indication means described in Watkins, by disabling an individuals weapon when hit indication is on, in order to simulate actual player *elimination* through weapon disablement, when the hits detected reach a predetermined hit count.

The combination of Watkins and Lebensfeld discloses equipment characterized in that the sensors are infrared sensors or light sensors, but does not explicitly disclosed that the sensors may be *solar cells* provided with a red *film*. However, it is the examiner's position that it would have been an obvious matter of choice well within the capabilities of one skilled in the art to use solar cells for hit detection, since the photo detection means is analogous for detecting laser energy and thereby provides no criticality with respect to the invention. In addition, Gammarino discloses a laser hit detection system, wherein a laser shot is reflected from a target onto solar cells for detecting laser energy; and wherein a masking is provided for photodetectors (Col. 2, lines 17-35). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the photodetectors described in the combination of Watkins and

Lebensfeld, by providing masking, in light of the teachings of Gammarino, in order to reduce the possibility of receiving a false hit which may be generated from other sources of light.

Regarding claims 3 and 4, Watkins discloses equipment characterized in that the supporting element is a headband 40. Although not explicitly stated, it is the examiner's position that a *jacket*, or *helmet* (as per claim 3), and (a target) are notoriously old and well known supporting elements for sensors, and thus it would have been a obvious to an artisan to modify the supporting elements such that they represent objects in battlefield or weapons training scenarios that are aimed upon.

Regarding claims 5 and 6, Watkins discloses equipment characterized in that the weapon is (as per claim 6), a rifle. It is not explicitly stated that the weapon may be a pistol (as per claim 5). However, Lebensfeld discloses a simulated weapon wherein the weapon is a pistol (operated by one hand, See Fig. 1). Hence, in view of Lebensfeld, at the time of the invention, it would have been obvious to an artisan to modify the simulated rifle described in Watkins, by simulating a pistol, thereby providing simulation of various weapon types for specific battlefield training scenarios.

Regarding claim 7, Watkins discloses equipment characterized in that the sensors are provided with amplification and a filtering chain 92 to eliminate random components from the signal to make the signal compatible with the microcontroller.

Regarding claim 8, Watkins discloses equipment characterized in that it provides amplification 92, which inherently provides filtration. It is not explicitly disclosed the filter comprises an attenuator circuit. However, the examiner takes official notice that the use of

attenuator circuits including low-pass filters and Schmitt trigger circuits are notoriously old and well known in the art for filtering out extraneous signals and noise.

Regarding claim 9, Gerber discloses equipment characterized in that the microcontroller is connected to a generator 48 and 38 of differentiated sound effects.

***Response to Arguments***

6. Applicant's arguments with respect to claims 1 and 3-9 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Sussholz et al. (USPN 5,738,522) – discloses a simulated weapon comprising a magazine presence sensor.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cameron Saadat whose telephone number is 703-305-5490. The examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Valencia Martin-Wallace can be reached on 703-308-4119. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

CS
June 18, 2003

Joe H. Cheng
Primary Examiner